

**Appl. No.** : **09/850,263**  
**Filed** : **May 7, 2001**

**AMENDMENTS TO THE SPECIFICATION**

Please delete the text (9 paragraphs total) beginning at page 3, line 11 and ending at page 5, line 20.

Please add the following four paragraphs at page 3, just after the heading "Summary of the Disclosure" at line 10:

One aspect of the invention is a method of recommending items to users from a database of items. The method comprises maintaining item selection histories of each of a plurality of users of a server system that provides functionality for browsing and selecting items from an electronic catalog of items, each item selection history corresponding to, and identifying items selected by, a particular user. Each item selection history may, for example, be a history of items selected for purchase by a user, or a history of items selected for viewing by a user. The method additionally comprises collectively analyzing at least the item selection histories of the plurality of users, as collected over a period of time, in an off-line processing mode to generate a plurality of data values that represent degrees to which specific items in the electronic catalog are related; and storing a selected subset of the plurality of data values in a mapping structure that maps items to related items. For each of a plurality of users of the electronic catalog, the mapping structure, including the data values stored therein, is used to generate personalized recommendations of items within the catalog.

Another aspect of the invention is a computer-implemented method of generating a mapping of items to related items. The method comprises maintaining item selection histories of each of a plurality of users of a server system that provides functionality for browsing and selecting items from an electronic catalog of items, each item selection history corresponding to, and identifying items selected by, a particular user. The item selection histories of the plurality of users are collectively and programmatically analyzed to generate a data value that represents a degree to which a first item and a second item in the catalog are related. The data value is dependent upon at least (a) a number of users that selected both the first item and the second item, (b) a total number of users that selected the first item, and (c) a total number of users that

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selected the second item. The data value is used to determine whether the first item should be mapped to the second item in a mapping structure that maps items to related items.

Another aspect of the invention is a computer-implemented method of recommending items to users of a server system that provides functionality for selecting items represented in an electronic catalog. The method comprises identifying a plurality of items that are currently selected by a target user to obtain from an online business entity, including multiple items currently represented in a user-specific data repository in which item selections are maintained persistently over multiple sessions. The method additionally comprises identifying a set of additional items to recommend to the target user according to a selection algorithm in which a candidate item is considered for inclusion in the set based at least in-part upon a degree to which the candidate item is related to each of said plurality of items currently selected by the target user to obtain. The method further comprises recommending at least some of the additional items in the set to the target user while the plurality of items are selected by the target user to obtain.

Another aspect of the invention is a data mining method. The method comprises programmatically analyzing user activity data associated with a plurality of users of an electronic catalog, in an off-line processing mode, to generate data values representing degrees to which specific catalog items are related to one another. The user activity data reflects user interest in specific catalog items. The data values are used to select, for each of a plurality of the catalog items, a corresponding set of related catalog items. Mappings of the plurality of catalog items to the corresponding sets of related catalog items are generated, and are used to programmatically generate personalized item recommendations for each of a plurality of users of the electronic catalog.